

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460



OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

**MEMORANDUM**

Date: 30-November-2017

Subject: **Glyphosate.** Dietary Exposure Analysis in Support of Registration Review.

<b>PC Codes:</b> 417300; 103601; 103603; 103604; 103605; 103607; 103608; 103613	<b>DP Barcode:</b> D429229
<b>Decision No.:</b> 487242	<b>Registration Nos.:</b> numerous
<b>Petition No.:</b> not applicable	<b>Regulatory Action:</b> registration review
<b>Risk Assessment Type:</b> dietary	<b>Case No.:</b> 178
<b>TXR No.:</b> not applicable	<b>CAS No.:</b> 1071-83-6; 38641-94-0; 70393-85-0; 114370-14-8; 40465-76-7; 69254-40-6; 34494-04-7; 70901-12-1
<b>MRID No.:</b> not applicable	<b>40 CFR:</b> 180.364

From/To: Tom Bloem, Chemist   
Health Effects Division/Risk Assessment Branch 1 (HED/RAB1; 7509P)

Through: Thurston Morton, Acting Branch Chief, HED/RAB1   
Sarah Levy, Chemist, HED/RAB1   
Dietary Exposure Science Advisory Council (DESAC)

George F. Kramer, Ph.D., Senior Chemist

**Executive Summary**

In support of registration review, a chronic dietary exposure and risk assessment was conducted. The analysis was conducted using the Dietary Exposure Evaluation Model - Food Consumption Intake Database (DEEM-FCID™, ver. 3.16) which incorporates consumption data from United States Department of Agriculture (USDA) National Health and Nutrition Examination Survey, What We Eat in America, (NHANES/WWEIA; 2003-2008). Acute and cancer dietary risk assessments were not conducted since an appropriate endpoint attributable to a single dose was not identified for the general U.S. population or any population subgroup and glyphosate is classified as not likely to be a human carcinogen, respectively. The chronic analysis assumed tolerance-level residues, 100% crop treated, DEEM (ver 7.81) default processing factors, and modeled drinking water estimates (direct application to water scenario). The resulting chronic risk estimates (food and water) were  $\leq 23\%$  cPAD and are not of concern to HED (children (1-2 years old) were the most highly exposed population).

## I. Introduction

Dietary risk assessment incorporates both exposure and toxicity of a given pesticide. For chronic assessments, the risk is expressed as a percentage of a maximum acceptable dose (i.e., the dose that HED has concluded will result in no unreasonable adverse health effects). This dose is referred to as the PAD. The PAD is equivalent to the point of departure (POD, NOAEL, LOAEL, e.g.) divided by the required uncertainty or safety factors. For non-cancer chronic exposures, HED is concerned when estimated dietary risk exceeds 100% of the PAD. References that discuss the chronic risk assessments in more detail are available on the EPA/pesticides web site: "Available Information on Assessing Exposure from Pesticides, A User's Guide," 21-JUN-2000, web link: <http://www.regulations.gov/#/documentDetail;D=EPA-HQ-OPP-2007-0780-0001>; or see SOP 99.6 (20-Aug-1999). The most recent dietary risk assessment for glyphosate can be found in D398863 (T. Bloem, 14-Nov-2012).

## II. Residue Information

Table 1 is a summary of the conclusion made by HED concerning the residues of concern in primary crops, livestock, rotational crops, and drinking water (D394964, T. Bloem, 15-Nov-2011).

**Table 1: Residues of Concern for Tolerance Expression and Risk Assessment.**

Matrix	Residues Included in Risk Assessment	Residues Included in Tolerance Expression
primary crops (excluding canola, soybean and field corn)	glyphosate	glyphosate
canola, soybean and field corn	glyphosate and <i>N</i> -acetyl-glyphosate	glyphosate and <i>N</i> -acetyl-glyphosate
livestock	glyphosate and <i>N</i> -acetyl-glyphosate	glyphosate and <i>N</i> -acetyl-glyphosate
rotational crops	glyphosate	glyphosate
drinking water	glyphosate	glyphosate

**Residues used in the Chronic Analysis:** The chronic analysis assumed tolerance-level residues, 100% crop treated, and DEEM (ver 7.81) default processing factors.

As part of registration review, HED evaluated the glyphosate residue chemistry database to determine if the established tolerances conform to the current practices and to determine if the crop group/subgroup tolerances could be updated to the current crop group/subgroup definitions. Based on this analysis, HED is recommending for establishment of the tolerances listed in Table 2. With the establishment of these tolerances, the following tolerances should be deleted: acerola; aloe vera; ambarella; asparagus; atemoya; avocado; bamboo, shoots; banana; biriba; breadfruit; cactus, fruit; cactus, pads; canistel; cherimoya; custard apple; date, dried fruit; durian; feijoa; fig; fruit, stone, group 12; guava; ilama; imbe; imbu; jaboticaba; jackfruit; longan; lychee; mamey apple; mango; mangosteen; marmaladebox; noni; nut, tree, group 14; olive; palm heart; papaya; papaya, mountain; passionfruit; pawpaw; persimmon; pineapple; pistachio; pomegranate; pulasan; rambutan; rose apple; sapodilla; sapote, black; sapote, mamey; sapote, white; soursop; Spanish lime; star apple; starfruit; sugar apple; Surinam cherry; tamarind; vegetable, leafy, brassica, group 5; vegetable, leafy, except brassica, group 4; watercress, upland; and wax jambu.

**Table 2: HED Recommended Changes to the Tolerance Level or Commodity Definition.**

Commodity	Tolerance (ppm)	Comment
Fruit, stone, group 12-12	0.20	update to the current crop group definitions; coconut was excluded as the residues were not within 5x (coconut tolerance at 0.1 ppm)
Nut, tree, group 14-12 (except coconut)	1.0	
Vegetable, leafy, group 4-16	0.20	
Vegetable, <i>Brassica</i> , head and stem, group 5-16	0.20	
Vegetable, stalk and stem, subgroup 22A	0.50	
Vegetable, leaf petiole, subgroup 22B	0.20	
Fruit, tropical and subtropical, edible peel, group 23	0.20	
Fruit, tropical and subtropical, small fruit, inedible peel, group 24A	0.20	
Fruit, tropical and subtropical, medium to large fruit, smooth, inedible peel, group 24B	0.20	
Fruit, tropical and subtropical, large fruit, rough or hairy, inedible peel, group 24C	0.20	
Fruit, tropical and subtropical, vine, inedible peel, group 24E	0.20	

### III. Percent Crop Treated Information

The chronic dietary exposure assessment assumed 100% crop treated for all commodities.

### IV. Drinking Water Data

D440486, J. Hetrick, 15-Jun-2017

Table 5.4 is a summary of the worst-case EDWCs when considering all registered uses. Based on these estimates, the chronic dietary assessment assumed a concentration in water of 75 ppb. The monitoring data provided in Table 5.4 were derived from the United States Geological Survey (USGS) National Water-Quality Assessment Program (NAWQA). The groundwater monitoring data with high glyphosate concentrations and provided in Table 5.4 are associated with subsurface drains and, therefore, they are not representative of groundwater sourced drinking water. Typically, tile drain fields form preferential flow pathways into tile drains, which allows for a less tortuous flow pathway when compared to advection-dispersion flow, as assumed in the groundwater model.

**Table 5.4: Drinking Water Concentrations.**

Drinking Water Source	Crop Scenario/Model	1-in-10 year average daily ( $\mu\text{g}/\text{L}$ )	1-in-10 year annual average ( $\mu\text{g}/\text{L}$ )
Surface Water	direct application to surface water/Pesticide Water Calculator (ver. 1.52) and Variable Volume Water Model (ver. 1.02).	700	75
	monitoring <sup>2</sup>	35	2.8
Ground Water	Crop Scenario/Model	Peak ( $\mu\text{g}/\text{L}$ )	Post-Breakthrough Average ( $\mu\text{g}/\text{L}$ )
	turf - 40 lbs ae/acre/PRZM-GW (ver. 1.52) <sup>1</sup>		no breakthrough
	monitoring <sup>3</sup>	285	20.6

<sup>1</sup> PRZM-GW = pesticide root zone mode- groundwater

<sup>2</sup> Monitoring sites with dissolved glyphosate data and watershed areas greater or equal to 0.04 km<sup>2</sup> are assumed to be capable of supporting a CWS. A watershed area of 0.04 km<sup>2</sup> represents a lower bound watershed area for a surface source drinking water.

<sup>3</sup> The indicated highest glyphosate concentration in groundwater is from a subsurface drain in Hamilton County, IA (USGS 423232093351801), which is not representative of a drinking water intake location.

## V. DEEM-FCID™ Program and Consumption Information

The glyphosate chronic dietary exposure assessment was conducted using the DEEM-FCID, Version 3.16, which incorporates 2003-2008 consumption data from USDA's NHANES/WWEIA. The data are based on the reported consumption of more than 20,000 individuals over two non-consecutive survey days. Foods "as consumed" (e.g., apple pie) are linked to EPA-defined food commodities (e.g., apples, peeled fruit - cooked; fresh or N/S; baked; or wheat flour - cooked; fresh or N/S, baked) using publicly available recipe translation files developed jointly by USDA/ARS and EPA. For chronic exposure assessment, consumption data are averaged for the entire U.S. population and within population subgroups. Based on analysis of the 2003-2008 WWEIA consumption data, which took into account dietary patterns and survey respondents, HED concluded that it is most appropriate to report risk for the following population subgroups: the general U.S. population, all infants (<1 year old), children 1-2, children 3-5, children 6-12, youth 13-19, adults 20-49, females 13-49, and adults 50-99 years old.

For a chronic dietary exposure assessment, an estimate of the residue level in each food or food-form (e.g., orange or orange juice) on the food commodity residue list is multiplied by the average daily consumption estimate for that food/food form to produce a residue intake estimate. The resulting residue intake estimate for each food/food form is summed with the residue intake estimates for all other food/food forms on the commodity residue list to arrive at the total average estimated exposure. Exposure is expressed in mg/kg body weight/day and as a percent of the cPAD. This procedure is performed for each population subgroup.

## VI. Toxicological Information

Table 3 below summarizes the endpoints selected for dietary exposure analyses; for more detailed discussion on these endpoints see the HED risk assessment document submitted in support of registration review.

**Table 3: Summary of Toxicological Doses and Endpoints.**

Exposure/ Scenario	Point of Departure	Uncertainty/FQPA Safety Factors	RfD, PAD, Level of Concern	Study and Toxicological Effects
Acute Dietary	An appropriate endpoint attributable to a single dose was not identified.			
Chronic Dietary (All Populations)	NOAEL= 100 mg/kg/day	UF = 100 FQPA SF= 1x	cRfD = 1.00 mg/kg/day cPAD = 1.00 mg/kg/day	Developmental toxicity study - rabbit; LOAEL = 350 mg/kg/day based on diarrhea, nasal dis-charge and death in maternal animals.
Cancer	Classification: Not Likely to be Carcinogenic to Humans.			

Point of Departure (POD) = A data point or an estimated point that is derived from observed dose-response data and used to mark the beginning of extrapolation to determine risk associated with lower environmentally relevant human exposures. NOAEL = no-observed adverse-effect level. LOAEL = lowest-observed adverse-effect level. UF = uncertainty factor. FQPA SF = FQPA Safety Factor. RfD = reference dose.

## VII. Results/Discussion

The resulting chronic risk estimates (food and water) were  $\leq 23\%$  cPAD and are not of concern to HED (children (1-2 years old) were the most highly exposed population). Table 4 is a summary of the chronic dietary exposure estimates.

**Table 4: Summary of Chronic Dietary Exposure and Risk.**

Population Subgroup	cPAD (mg/kg/day)	Exposure (mg/kg/day)	%cPAD <sup>1</sup>
General U.S. Population	1.00	0.089771	9.0
All Infants (< 1 year old)		0.138338	14
<b>Children 1-2 years old</b>		<b>0.228379</b>	<b>23</b>
Children 3-5 years old		0.212036	21
Children 6-12 years old		0.147749	15
Youth 13-19 years old		0.088362	8.8
Adults 20-49 years old		0.074650	7.5
Adults 50-99 years old		0.061258	6.1
Females 13-49 years old		0.069318	6.9

<sup>1</sup> The bolded %cPAD represents the population with highest risk.

## VIII. Characterization of Inputs/Outputs

The chronic analysis is conservative in that it assumed tolerance-level residues, 100% crop treated, and DEEM (ver 7.81) default processing factors.

## IX. Conclusions

In support of registration review, a chronic dietary risk assessment was conducted. The chronic analysis assumed tolerance-level residues, 100% crop treated, DEEM (ver 7.81) default processing factors, and modeled drinking water estimates (direct application to water scenario). The resulting chronic risk estimates (food and water) were  $\leq 23\%$  cPAD and are not of concern to HED (children (1-2 years old) were the most highly exposed population).

## X. List of Attachments

Attachment 1: DEEM-FCID™ Chronic Residue File.

Attachment 2: DEEM-FCID™ Chronic Exposure Estimates.

## Attachment 1: DEEM-FCID™ Chronic Residue File.

Filename: C:\Users\tbloem\Documents\work\glyphosate\registration review\417300C.R08  
 Chemical: Glyphosate

RfD(Chronic): 1 mg/kg bw/day NOEL(Chronic): 100 mg/kg bw/day

RfD(Acute): 0 mg/kg bw/day NOEL(Acute): 0 mg/kg bw/day

Date created/last modified: 06-20-2017/13:09:31 Program ver. 3.16, 03-08-d

Comment: THIS R98 FILE WAS GENERATED USING THE CONVERT TO R98 UTILITY VERSION 1.1.2.

EPA Code	Crop Grp	Commodity Name	Def Res (ppm)	Adj. Factors #1	Adj. Factors #2	Comment
0101050000	1AB	Beet, garden, roots Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0101050001	1AB	Beet, garden, roots-babyfood Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0101052000	1A	Beet, sugar Full comment: P 7F04886	10.000000	1.000	1.000	P 7F04
0101052001	1A	Beet, sugar-babyfood Full comment: P 7F04886	10.000000	1.000	1.000	P 7F04
0101053000	1A	Beet, sugar, molasses Full comment: P 7F04886	10.000000	1.000	1.000	P 7F04
0101053001	1A	Beet, sugar, molasses-babyfood Full comment: P 7F04886	10.000000	1.000	1.000	P 7F04
0101067000	1AB	Burdock	0.200000	1.000	1.000	
0101078000	1AB	Carrot Full comment: P 8E3676 7F2016	5.000000	1.000	1.000	P 8E36
0101078001	1AB	Carrot-babyfood Full comment: P 8E3676 7F2016	5.000000	1.000	1.000	P 8E36
0101079000	1AB	Carrot, juice Full comment: P 8E3676 7F2016	5.000000	1.000	1.000	P 8E36
0101084000	1AB	Celeriac	0.200000	1.000	1.000	
0101100000	1AB	Chicory, roots	0.200000	1.000	1.000	
0101168000	1AB	Ginseng, dried Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0101190000	1AB	Horseradish Full comment: P 8E3676	0.200000	1.000	1.000	P 8E36
0101250000	1AB	Parsley, turnip rooted	0.200000	1.000	1.000	
0101251000	1AB	Parsnip Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0101251001	1AB	Parsnip-babyfood Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0101314000	1AB	Radish, roots Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0101316000	1AB	Radish, Oriental, roots Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0101327000	1AB	Rutabaga	0.200000	1.000	1.000	
0101331000	1AB	Salsify, roots	0.200000	1.000	1.000	
0101388000	1AB	Turnip, roots Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0103015000	1CD	Arrowroot, flour	0.200000	1.000	1.000	
0103015001	1CD	Arrowroot, flour-babyfood	0.200000	1.000	1.000	
0103017000	1CD	Artichoke, Jerusalem Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0103082000	1CD	Cassava Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0103082001	1CD	Cassava-babyfood Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0103139000	1CD	Dasheen, corm Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0103166000	1CD	Ginger Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0103166001	1CD	Ginger-babyfood	0.200000	1.000	1.000	
0103167000	1CD	Ginger, dried	0.200000	1.000	1.000	P 7F20

Glyphosate		Dietary Exposure and Risk Assessment				D429229
		Full comment: P 7F2016				
0103296000	1C Potato, chips	0.200000	1.000	1.000	P 7F20	
		Full comment: P 7F2016				
0103297000	1C Potato, dry (granules/ flakes)	0.200000	6.500	1.000		
0103297001	1C Potato, dry (granules/ flakes)-b	0.200000	6.500	1.000		
0103298000	1C Potato, flour	0.200000	6.500	1.000	P 7F20	
		Full comment: P 7F2016				
0103298001	1C Potato, flour-babyfood	0.200000	6.500	1.000	P 7F20	
		Full comment: P 7F2016				
0103299000	1C Potato, tuber, w/peel	0.200000	1.000	1.000	P 7F20	
		Full comment: P 7F2016				
0103299001	1C Potato, tuber, w/peel-babyfood	0.200000	1.000	1.000		
0103300000	1C Potato, tuber, w/o peel	0.200000	1.000	1.000	P 7F20	
		Full comment: P 7F2016				
0103300001	1C Potato, tuber, w/o peel-babyfood	0.200000	1.000	1.000	P 7F20	
		Full comment: P 7F2016				
0103366000	1CD Sweet potato	3.000000	1.000	1.000	P 7F20	
		Full comment: P 7F2016				
0103366001	1CD Sweet potato-babyfood	3.000000	1.000	1.000	P 7F20	
		Full comment: P 7F2016				
0103371000	1CD Tanier, corm	0.200000	1.000	1.000		
0103387000	1CD Turmeric	0.200000	1.000	1.000	P 7F20	
		Full comment: P 7F2016				
0103406000	1CD Yam, true	0.200000	1.000	1.000	P 7F20	
		Full comment: P 7F2016				
0103407000	1CD Yam bean	0.200000	1.000	1.000	P 7F20	
		Full comment: P 7F2016				
0200051000	2 Beet, garden, tops	0.200000	1.000	1.000	P 8E21	
		Full comment: P 8E2122				
0200101000	2 Chicory, tops	0.200000	1.000	1.000	P 7F20	
		Full comment: P 7F2016 & 8E2122				
0200140000	2 Dasheen, leaves	0.200000	1.000	1.000	P 8E21	
		Full comment: P 8E2122				
0200315000	2 Radish, tops	0.200000	1.000	1.000		
0200317000	2 Radish, Oriental, tops	0.200000	1.000	1.000		
0200332000	2 Salsify, tops	0.200000	1.000	1.000		
0301165000	3A Garlic, bulb	0.200000	1.000	1.000	P 8E36	
		Full comment: P 8E3676				
0301165001	3A Garlic, bulb-babyfood	0.200000	1.000	1.000	P 8E36	
		Full comment: P 8E3676				
0301237000	3A Onion, bulb	0.200000	1.000	1.000	P 8E36	
		Full comment: P 8E3676				
0301237001	3A Onion, bulb-babyfood	0.200000	1.000	1.000	P 8E36	
		Full comment: P 8E3676				
0301238000	3A Onion, bulb, dried	0.200000	9.000	1.000	P 8E36	
		Full comment: P 8E3676				
0301238001	3A Onion, bulb, dried-babyfood	0.200000	9.000	1.000	P 8E36	
		Full comment: P 8E3676				
0301338000	3A Shallot, bulb	0.200000	1.000	1.000		
0302103000	3B Chive, fresh leaves	0.200000	1.000	1.000	P 9E60	
		Full comment: P 9E6003				
0302198000	3B Leek	0.200000	1.000	1.000	P 8E36	
		Full comment: P 8E3676				
0302239000	3B Onion, green	0.200000	1.000	1.000	P 8E36	
		Full comment: P 8E3676				
0302338500	3B Shallot, fresh leaves	0.200000	1.000	1.000		
0401005000	4A Amaranth, leafy	0.200000	1.000	1.000		
0401018000	4A Arugula	0.200000	1.000	1.000	P 8E21	
		Full comment: P 8E2122				
0401104000	4A Chrysanthemum, garland	0.200000	1.000	1.000		
0401133000	4A Cress, garden	0.200000	1.000	1.000		
0401134000	4A Cress, upland	0.200000	1.000	1.000		
0401138000	4A Dandelion, leaves	0.200000	1.000	1.000	P 8E21	
		Full comment: P 8E2122				
0401150000	4A Endive	0.200000	1.000	1.000	P 7F20	

Glyphosate	Dietary Exposure and Risk Assessment	D429229			
	Full comment: P 7F2016 & 8E2122				
0401204000 4A Lettuce, head	0.200000	1.000	1.000	P 8E21	
	Full comment: P 8E2122				
0401205000 4A Lettuce, leaf	0.200000	1.000	1.000	P 8E21	
	Full comment: P 8E2122				
0401248000 4A Parsley, leaves	0.200000	1.000	1.000	P 8E21	
	Full comment: P 8E2122				
0401313000 4A Radicchio	0.200000	1.000	1.000	P 8E21	
	Full comment: P 8E2122				
0401355000 4A Spinach	0.200000	1.000	1.000	P 8E21	
	Full comment: P 8E2122				
0401355001 4A Spinach-babyfood	0.200000	1.000	1.000	P 8E21	
	Full comment: P 8E2122				
0402076000 4B Cardoon	0.200000	1.000	1.000		
0402085000 4B Celery	0.200000	1.000	1.000	P 8E21	
	Full comment: P 8E2122				
0402085001 4B Celery-babyfood	0.200000	1.000	1.000	P 8E21	
	Full comment: P 8E2122				
0402086000 4B Celery, juice	0.200000	1.000	1.000	P 8E21	
	Full comment: P 8E2122				
0402087000 4B Celture	0.500000	1.000	1.000		
0402152000 4B Fennel, Florence	0.500000	1.000	1.000		
0402322000 4B Rhubarb	0.200000	1.000	1.000	P 8E21	
	Full comment: P 8E2122				
0402367000 4B Swiss chard	0.200000	1.000	1.000	P 8E21	
	Full comment: P 8E2122				
0501061000 5A Broccoli	0.200000	1.000	1.000	P 8E21	
	Full comment: P 8E2122				
0501061001 5A Broccoli-babyfood	0.200000	1.000	1.000	P 8E21	
	Full comment: P 8E2122				
0501062000 5A Broccoli, Chinese	0.200000	1.000	1.000	P 8E21	
	Full comment: P 8E2122				
0501064000 5A Brussels sprouts	0.200000	1.000	1.000	P 8E21	
	Full comment: P 8E2122				
0501069000 5A Cabbage	0.200000	1.000	1.000	P 8E21	
	Full comment: P 8E2122				
0501071000 5A Cabbage, Chinese, napa	0.200000	1.000	1.000	P 8E21	
	Full comment: P 8E2122				
0501072000 5A Cabbage, Chinese, mustard	0.200000	1.000	1.000	P 8E21	
	Full comment: P 8E2122				
0501083000 5A Cauliflower	0.200000	1.000	1.000	P 8E21	
	Full comment: P 8E2122				
0501196000 5A Kohlrabi	0.500000	1.000	1.000		
0502063000 5B Broccoli raab	0.200000	1.000	1.000		
0502070000 5B Cabbage, Chinese, bok choy	0.200000	1.000	1.000	P 8E21	
	Full comment: P 8E2122				
0502117000 5B Collards	0.200000	1.000	1.000	P 8E21	
	Full comment: P 8E2122				
0502194000 5B Kale	0.200000	1.000	1.000	P 8E21	
	Full comment: P 8E2122				
0502229000 5B Mustard greens	0.200000	1.000	1.000	P 8E21	
	Full comment: P 8E2122				
0502318000 5B Rape greens	0.200000	1.000	1.000		
0502389000 5B Turnip, greens	0.200000	1.000	1.000	P 8E21	
	Full comment: P 8E2122				
0600347000 6 Soybean, seed	20.000000	1.000	1.000	P 5F15	
	Full comment: P 5F1536				
0600349000 6 Soybean, soy milk	20.000000	1.000	1.000	P 5F15	
	Full comment: P 5F1536				
0600349001 6 Soybean, soy milk-babyfood or in	20.000000	1.000	1.000		
0600350000 6 Soybean, oil	20.000000	1.000	1.000	P 5F15	
	Full comment: P 5F1536				
0600350001 6 Soybean, oil-babyfood	20.000000	1.000	1.000	P 5F15	
	Full comment: P 5F1536				
0601043000 6A Bean, snap, succulent	5.000000	1.000	1.000	P 2E41	

Glyphosate		Dietary Exposure and Risk Assessment					D429229
		Full comment: P 2E4118					
0601043001	6A	Bean, snap, succulent-babyfood	5.000000	1.000	1.000	P 2E41	
		Full comment: P 2E4118					
0601257000	6A	Pea, edible podded, succulent	5.000000	1.000	1.000	P 2E41	
		Full comment: P 2E4118					
0601349500	6AB	Soybean, vegetable	5.000000	1.000	1.000		
0602031000	6B	Bean, broad, succulent	5.000000	1.000	1.000		
0602033000	6B	Bean, cowpea, succulent	5.000000	1.000	1.000	P 2E41	
		Full comment: P 2E4118					
0602037000	6B	Bean, lima, succulent	5.000000	1.000	1.000	P 2E41	
		Full comment: P 2E4118					
0602255000	6B	Pea, succulent	5.000000	1.000	1.000	P 2E41	
		Full comment: P 2E4118					
0602255001	6B	Pea, succulent-babyfood	5.000000	1.000	1.000	P 2E41	
		Full comment: P 2E4118					
0602259000	6B	Pea, pigeon, succulent	5.000000	1.000	1.000	P 2E41	
		Full comment: P 2E4118					
0603030000	6C	Bean, black, seed	5.000000	1.000	1.000	P 2E41	
		Full comment: P 2E4118					
0603032000	6C	Bean, broad, seed	5.000000	1.000	1.000	P 2E41	
		Full comment: P 2E4118					
0603034000	6C	Bean, cowpea, seed	5.000000	1.000	1.000	P 2E41	
		Full comment: P 2E4118					
0603035000	6C	Bean, great northern, seed	5.000000	1.000	1.000	P 2E41	
		Full comment: P 2E4118					
0603036000	6C	Bean, kidney, seed	5.000000	1.000	1.000	P 2E41	
		Full comment: P 2E4118					
0603038000	6C	Bean, lima, seed	5.000000	1.000	1.000	P 2E41	
		Full comment: P 2E4118					
0603039000	6C	Bean, mung, seed	5.000000	1.000	1.000	P 2E41	
		Full comment: P 2E4118					
0603040000	6C	Bean, navy, seed	5.000000	1.000	1.000	P 2E41	
		Full comment: P 2E4118					
0603041000	6C	Bean, pink, seed	5.000000	1.000	1.000	P 2E41	
		Full comment: P 2E4118					
0603042000	6C	Bean, pinto, seed	5.000000	1.000	1.000	P 2E41	
		Full comment: P 2E4118					
0603098000	6C	Chickpea, seed	8.000000	1.000	1.000	P 2E41	
		Full comment: P 2E4118					
0603098001	6C	Chickpea, seed-babyfood	8.000000	1.000	1.000	P 2E41	
		Full comment: P 2E4118					
0603099000	6C	Chickpea, flour	8.000000	1.000	1.000		
0603182000	6C	Guar, seed	8.000000	1.000	1.000	P 2E41	
		Full comment: P 2E4118					
0603182001	6C	Guar, seed-babyfood	8.000000	1.000	1.000		
0603203000	6C	Lentil, seed	8.000000	1.000	1.000	P 2E41	
		Full comment: P 2E4118					
0603256000	6C	Pea, dry	8.000000	1.000	1.000	P 2E41	
		Full comment: P 2E4118					
0603256001	6C	Pea, dry-babyfood	8.000000	1.000	1.000	P 2E41	
		Full comment: P 2E4118					
0603258000	6C	Pea, pigeon, seed	8.000000	1.000	1.000		
0603348000	6C	Soybean, flour	20.000000	1.000	1.000	P 5F15	
		Full comment: P 5F1536					
0603348001	6C	Soybean, flour-babyfood	20.000000	1.000	1.000	P 5F15	
		Full comment: P 5F1536					
0801374000	8A	Tomatillo	0.100000	1.000	1.000		
0801375000	8A	Tomato	0.100000	1.000	1.000		
0801375001	8A	Tomato-babyfood	0.100000	1.000	1.000		
0801376000	8A	Tomato, paste	0.100000	5.400	1.000		
0801376001	8A	Tomato, paste-babyfood	0.100000	5.400	1.000		
0801377000	8A	Tomato, puree	0.100000	3.300	1.000		
0801377001	8A	Tomato, puree-babyfood	0.100000	3.300	1.000		
0801378000	8A	Tomato, dried	0.100000	14.300	1.000		
0801378001	8A	Tomato, dried-babyfood	0.100000	14.300	1.000		

Glyphosate		Dietary Exposure and Risk Assessment				D429229
0801379000 8A Tomato, juice		0.100000	1.500	1.000		
0801380000 8A Tomato, Tree		0.100000	1.000	1.000		
0802148000 8BC Eggplant		0.100000	1.000	1.000		
0802234000 8BC Okra		0.500000	1.000	1.000	P 9E60	
	Full comment: P 9E6003					
0802270000 8B Pepper, bell		0.100000	1.000	1.000		
0802270001 8B Pepper, bell-babyfood		0.100000	1.000	1.000		
0802271000 8B Pepper, bell, dried		0.100000	1.000	1.000		
0802271001 8B Pepper, bell, dried-babyfood		0.100000	1.000	1.000		
0802272000 8BC Pepper, nonbell		0.100000	1.000	1.000		
0802272001 8BC Pepper, nonbell-babyfood		0.100000	1.000	1.000		
0802273000 8BC Pepper, nonbell, dried		0.100000	1.000	1.000		
0901075000 9A Cantaloupe		0.500000	1.000	1.000	P 3E28	
	Full comment: P 3E2845					
0901187000 9A Honeydew melon		0.500000	1.000	1.000	P 3E28	
	Full comment: P 3E2845					
0901399000 9A Watermelon		0.500000	1.000	1.000	P 3E28	
	Full comment: P 3E2845					
0901400000 9A Watermelon, juice		0.500000	1.000	1.000		
0902021000 9B Balsam pear		0.500000	1.000	1.000		
0902088000 9B Chayote, fruit		0.500000	1.000	1.000		
0902102000 9B Chinese waxgourd		0.500000	1.000	1.000		
0902135000 9B Cucumber		0.500000	1.000	1.000	P 3E28	
	Full comment: P 3E2845					
0902308000 9B Pumpkin		0.500000	1.000	1.000	P 3E28	
	Full comment: P 3E2845					
0902309000 9B Pumpkin, seed		0.500000	1.000	1.000		
0902356000 9B Squash, summer		0.500000	1.000	1.000	P 3E28	
	Full comment: P 3E2845					
0902356001 9B Squash, summer-babyfood		0.500000	1.000	1.000	P 3E28	
	Full comment: P 3E2845					
0902357000 9B Squash, winter		0.500000	1.000	1.000	P 3E28	
	Full comment: P 3E2845					
0902357001 9B Squash, winter-babyfood		0.500000	1.000	1.000	P 3E28	
	Full comment: P 3E2845					
1001106000 10A Citron		0.500000	1.000	1.000	P 4F43	
	Full comment: P 4F4338					
1001107000 10A Citrus hybrids		0.500000	1.000	1.000		
1001108000 10A Citrus, oil		0.500000	1.000	1.000		
1001240000 10A Orange		0.500000	1.000	1.000	P 4F43	
	Full comment: P 4F4338					
1001241000 10A Orange, juice		0.500000	1.800	1.000	P 4F43	
	Full comment: P 4F4338					
1001241001 10A Orange, juice-babyfood		0.500000	1.800	1.000	P 4F43	
	Full comment: P 4F4338					
1001242000 10A Orange, peel		0.500000	1.000	1.000	P 4F43	
	Full comment: P 4F4338					
1001369000 10A Tangerine		0.500000	1.000	1.000	P 4F43	
	Full comment: P 4F4338					
1001370000 10A Tangerine, juice		0.500000	2.300	1.000	P 4F43	
	Full comment: P 4F4338					
1002197000 10B Kumquat		0.500000	1.000	1.000		
1002199000 10B Lemon		0.500000	1.000	1.000	P 4F43	
	Full comment: P 4F4338					
1002200000 10B Lemon, juice		0.500000	2.000	1.000	P 4F43	
	Full comment: P 4F4338					
1002200001 10B Lemon, juice-babyfood		0.500000	2.000	1.000	P 4F43	
	Full comment: P 4F4338					
1002201000 10B Lemon, peel		0.500000	1.000	1.000	P 4F43	
	Full comment: P 4F4338					
1002206000 10B Lime		0.500000	1.000	1.000	P 4F43	
	Full comment: P 4F4338					
1002207000 10B Lime, juice		0.500000	2.000	1.000	P 4F43	
	Full comment: P 4F4338					
1002207001 10B Lime, juice-babyfood		0.500000	2.000	1.000	P 4F43	

Glyphosate		Dietary Exposure and Risk Assessment				D429229
		Full comment: P 4F4338				
1003180000	10C	Grapefruit	0.500000	1.000	1.000	P 4F43
		Full comment: P 4F4338				
1003181000	10C	Grapefruit, juice	0.500000	2.100	1.000	P 4F43
		Full comment: P 4F4338				
1003307000	10C	Pummelo	0.500000	1.000	1.000	
1100007000	11	Apple, fruit with peel	0.200000	1.000	1.000	P 6F18
		Full comment: P 6F1861				
1100008000	11	Apple, peeled fruit	0.200000	1.000	1.000	P 6F18
		Full comment: P 6F1861				
1100008001	11	Apple, peeled fruit-babyfood	0.200000	1.000	1.000	P 6F18
		Full comment: P 6F1861				
1100009000	11	Apple, dried	0.200000	8.000	1.000	P 6F18
		Full comment: P 6F1861				
1100009001	11	Apple, dried-babyfood	0.200000	8.000	1.000	P 6F18
		Full comment: P 6F1861				
1100010000	11	Apple, juice	0.200000	1.300	1.000	P 6F18
		Full comment: P 6F1861				
1100010001	11	Apple, juice-babyfood	0.200000	1.300	1.000	P 6F18
		Full comment: P 6F1861				
1100011000	11	Apple, sauce	0.200000	1.000	1.000	P 6F18
		Full comment: P 6F1861				
1100011001	11	Apple, sauce-babyfood	0.200000	1.000	1.000	P 6F18
		Full comment: P 6F1861				
1100129000	11	Crabapple	0.200000	1.000	1.000	
1100173500	11	Goji berry	0.100000	1.000	1.000	
1100210000	11	Loquat	0.200000	1.000	1.000	
1100266000	11	Pear	0.200000	1.000	1.000	P 6F18
		Full comment: P 6F1861				
1100266001	11	Pear-babyfood	0.200000	1.000	1.000	P 6F18
		Full comment: P 6F1861				
1100267000	11	Pear, dried	0.200000	6.250	1.000	P 6F18
		Full comment: P 6F1861				
1100268000	11	Pear, juice	0.200000	1.000	1.000	P 6F18
		Full comment: P 6F1861				
1100268001	11	Pear, juice-babyfood	0.200000	1.000	1.000	P 6F18
		Full comment: P 6F1861				
1100310000	11	Quince	0.200000	1.000	1.000	
1201090000	12A	Cherry	0.200000	1.000	1.000	P 2600
		Full comment: P 260044				
1201090001	12A	Cherry-babyfood	0.200000	1.000	1.000	P 2600
		Full comment: P 260044				
1201091000	12A	Cherry, juice	0.200000	1.500	1.000	P 2600
		Full comment: P 260044				
1201091001	12A	Cherry, juice-babyfood	0.200000	1.500	1.000	P 2600
		Full comment: P 260044				
1202012000	12B	Apricot	0.200000	1.000	1.000	P 2600
		Full comment: P 260044				
1202012001	12B	Apricot-babyfood	0.200000	1.000	1.000	P 2600
		Full comment: P 260044				
1202013000	12B	Apricot, dried	0.200000	6.000	1.000	P 2600
		Full comment: P 260044				
1202014000	12B	Apricot, juice	0.200000	1.000	1.000	P 2600
		Full comment: P 260044				
1202014001	12B	Apricot, juice-babyfood	0.200000	1.000	1.000	P 2600
		Full comment: P 260044				
1202230000	12B	Nectarine	0.200000	1.000	1.000	P 2600
		Full comment: P 260044				
1202260000	12B	Peach	0.200000	1.000	1.000	P 2600
		Full comment: P 260044				
1202260001	12B	Peach-babyfood	0.200000	1.000	1.000	P 2600
		Full comment: P 260044				
1202261000	12B	Peach, dried	0.200000	7.000	1.000	P 2600
		Full comment: P 260044				
1202261001	12B	Peach, dried-babyfood	0.200000	7.000	1.000	

Glyphosate	Dietary Exposure and Risk Assessment	D429229			
1202262000 12B Peach, juice Full comment: P 260044	0.200000	1.000	1.000	P	2600
1202262001 12B Peach, juice-babyfood Full comment: P 260044	0.200000	1.000	1.000	P	2600
1203285000 12C Plum Full comment: P 260044	0.200000	1.000	1.000	P	2600
1203285001 12C Plum-babyfood Full comment: P 260044	0.200000	1.000	1.000	P	2600
1203286000 12C Plum, prune, fresh Full comment: P 260044	0.200000	1.000	1.000	P	2600
1203286001 12C Plum, prune, fresh-babyfood Full comment: P 260044	0.200000	1.000	1.000	P	2600
1203287000 12C Plum, prune, dried Full comment: P 260044	0.200000	5.000	1.000	P	2600
1203287001 12C Plum, prune, dried-babyfood	0.200000	5.000	1.000		
1203288000 12C Plum, prune, juice Full comment: P 260044	0.200000	1.400	1.000	P	2600
1203288001 12C Plum, prune, juice-babyfood Full comment: P 260044	0.200000	1.400	1.000	P	2600
1301055000 13A Blackberry Full comment: P 3E2930	0.200000	1.000	1.000	P	3E29
1301056000 13A Blackberry, juice Full comment: P 3E2930	0.200000	1.000	1.000	P	3E29
1301056001 13A Blackberry, juice-babyfood Full comment: P 3E2930	0.200000	1.000	1.000	P	3E29
1301058000 13A Boysenberry Full comment: P 3E2930	0.200000	1.000	1.000	P	3E29
1301208000 13A Loganberry	0.200000	1.000	1.000		
1301320000 13A Raspberry Full comment: P 3E2930	0.200000	1.000	1.000	P	3E29
1301320001 13A Raspberry-babyfood Full comment: P 3E2930	0.200000	1.000	1.000	P	3E29
1301321000 13A Raspberry, juice Full comment: P 3E2930	0.200000	1.000	1.000	P	3E29
1301321001 13A Raspberry, juice-babyfood Full comment: P 3E2930	0.200000	1.000	1.000	P	3E29
1302057000 13B Blueberry Full comment: P 3E2930	0.200000	1.000	1.000	P	3E29
1302057001 13B Blueberry-babyfood Full comment: P 3E2930	0.200000	1.000	1.000	P	3E29
1302136000 13B Currant Full comment: P 3E2930	0.200000	1.000	1.000	P	3E29
1302137000 13B Currant, dried Full comment: P 3E2930	0.200000	1.000	1.000	P	3E29
1302149000 13B Elderberry	0.200000	1.000	1.000		
1302174000 13B Gooseberry	0.200000	1.000	1.000		
1302191000 13B Huckleberry Full comment: P 3E2930	0.200000	1.000	1.000	P	3E29
1303227000 13C Mulberry	0.200000	1.000	1.000		
1304175000 13D Grape Full comment: P 5F1560	0.200000	1.000	1.000	P	5F15
1304176000 13D Grape, juice Full comment: P 5F1560	0.200000	1.200	1.000	P	5F15
1304176001 13D Grape, juice-babyfood Full comment: P 5F1560	0.200000	1.200	1.000	P	5F15
1304179000 13D Grape, wine and sherry Full comment: P 3E2930	0.200000	1.000	1.000	P	3E29
1304195000 13D Kiwifruit, fuzzy Full comment: P 3E2929	0.200000	1.000	1.000	P	3E29
1307130000 13G Cranberry Full comment: P 0E2421	0.200000	1.000	1.000	P	0E24
1307130001 13G Cranberry-babyfood Full comment: P 0E2421	0.200000	1.000	1.000	P	0E24
1307131000 13G Cranberry, dried Full comment: P 0E2421	0.200000	1.000	1.000	P	0E24

Glyphosate	Dietary Exposure and Risk Assessment						D429229
1307132000 13G Cranberry, juice Full comment: P 0E2421	0.200000	1.100	1.000	P	0E24		
1307132001 13G Cranberry, juice-babyfood Full comment: P 0E2421	0.200000	1.100	1.000	P	0E24		
1307359000 13G Strawberry Full comment: P 3E2930	0.200000	1.000	1.000	P	3E29		
1307359001 13G Strawberry-babyfood Full comment: P 3E2930	0.200000	1.000	1.000	P	3E29		
1307360000 13G Strawberry, juice Full comment: P 3E2930	0.200000	1.000	1.000	P	3E29		
1307360001 13G Strawberry, juice-babyfood Full comment: P 3E2930	0.200000	1.000	1.000	P	3E29		
1400003000 14 Almond Full comment: P 7F1893	1.000000	1.000	1.000	P	7F18		
1400003001 14 Almond-babyfood	1.000000	1.000	1.000				
1400004000 14 Almond, oil Full comment: P 7F1893	1.000000	1.000	1.000	P	7F18		
1400004001 14 Almond, oil-babyfood	1.000000	1.000	1.000				
1400059000 14 Brazil nut Full comment: P 7F1893	1.000000	1.000	1.000	P	7F18		
1400068000 14 Butternut	1.000000	1.000	1.000				
1400081000 14 Cashew Full comment: P 7F1893	1.000000	1.000	1.000	P	7F18		
1400092000 14 Chestnut Full comment: P 7F1893	1.000000	1.000	1.000	P	7F18		
1400155000 14 Hazelnut Full comment: P 7F1893	1.000000	1.000	1.000	P	7F18		
1400156000 14 Hazelnut, oil	1.000000	1.000	1.000				
1400185000 14 Hickory nut	1.000000	1.000	1.000				
1400213000 14 Macadamia nut Full comment: P 7F1893	1.000000	1.000	1.000	P	7F18		
1400269000 14 Pecan Full comment: P 7F1893	1.000000	1.000	1.000	P	7F18		
1400278000 14 Pine nut Full comment: P 9E6003	1.000000	1.000	1.000	P	9E60		
1400282000 14 Pistachio Full comment: P 9E6003	1.000000	1.000	1.000	P	9E60		
1400391000 14 Walnut Full comment: P 7F1893	1.000000	1.000	1.000	P	7F18		
1500025000 15 Barley, pearled barley Full comment: P 2E4118	30.000000	1.000	1.000	P	2E41		
1500025001 15 Barley, pearled barley-babyfood Full comment: P 2E4118	30.000000	1.000	1.000	P	2E41		
1500026000 15 Barley, flour Full comment: P 2E4118	30.000000	1.000	1.000	P	2E41		
1500026001 15 Barley, flour-babyfood Full comment: P 2E4118	30.000000	1.000	1.000	P	2E41		
1500027000 15 Barley, bran Full comment: P 2E4118	30.000000	1.000	1.000	P	2E41		
1500065000 15 Buckwheat Full comment: P 8E2122	30.000000	1.000	1.000	P	8E21		
1500066000 15 Buckwheat, flour	30.000000	1.000	1.000				
1500120000 15 Corn, field, flour Full comment: P 8F3673	5.000000	1.000	1.000	P	8F36		
1500120001 15 Corn, field, flour-babyfood Full comment: P 8F3673	5.000000	1.000	1.000	P	8F36		
1500121000 15 Corn, field, meal Full comment: P 8F3673	5.000000	1.000	1.000	P	8F36		
1500121001 15 Corn, field, meal-babyfood	5.000000	1.000	1.000				
1500122000 15 Corn, field, bran Full comment: P 8F3673	5.000000	1.000	1.000	P	8F36		
1500123000 15 Corn, field, starch Full comment: P 8F3673	5.000000	1.000	1.000	P	8F36		
1500123001 15 Corn, field, starch-babyfood Full comment: P 8F3673	5.000000	1.000	1.000	P	8F36		

Glyphosate		Dietary Exposure and Risk Assessment					D429229
1500124000	15	Corn, field, syrup Full comment: P 8F3673	5.000000	1.500	1.000	P 8F36	
1500124001	15	Corn, field, syrup-babyfood Full comment: P 8F3673	5.000000	1.500	1.000	P 8F36	
1500125000	15	Corn, field, oil Full comment: P 8F3673	5.000000	1.000	1.000	P 8F36	
1500125001	15	Corn, field, oil-babyfood Full comment: P 8F3673	5.000000	1.000	1.000	P 8F36	
1500126000	15	Corn, pop Full comment: P 8E2122	0.100000	1.000	1.000	P 8E21	
1500127000	15	Corn, sweet Full comment: P 8E2122	3.500000	1.000	1.000	P 8E21	
1500127001	15	Corn, sweet-babyfood Full comment: P 8E2122	3.500000	1.000	1.000	P 8E21	
1500226000	15	Millet, grain Full comment: P 8E2122	30.000000	1.000	1.000	P 8E21	
1500231000	15	Oat, bran Full comment: P 6E4645	30.000000	1.000	1.000	P 6E46	
1500232000	15	Oat, flour Full comment: P 6E4645	30.000000	1.000	1.000	P 6E46	
1500232001	15	Oat, flour-babyfood Full comment: P 6E4645	30.000000	1.000	1.000	P 6E46	
1500233000	15	Oat, groats/rolled oats Full comment: P 6E4645	30.000000	1.000	1.000	P 6E46	
1500233001	15	Oat, groats/rolled oats-babyfood Full comment: P 6E4645	30.000000	1.000	1.000	P 6E46	
1500323000	15	Rice, white Full comment: P 8E2122	0.100000	1.000	1.000		
1500323001	15	Rice, white-babyfood	0.100000	1.000	1.000		
1500324000	15	Rice, brown Full comment: P 8E2122	0.100000	1.000	1.000		
1500324001	15	Rice, brown-babyfood	0.100000	1.000	1.000		
1500325000	15	Rice, flour Full comment: P 8E2122	0.100000	1.000	1.000		
1500325001	15	Rice, flour-babyfood	0.100000	1.000	1.000		
1500326000	15	Rice, bran Full comment: P 8E2122	0.100000	1.000	1.000		
1500326001	15	Rice, bran-babyfood	0.100000	1.000	1.000		
1500328000	15	Rye, grain Full comment: P 8E2122	30.000000	1.000	1.000	P 8E21	
1500329000	15	Rye, flour	30.000000	1.000	1.000		
1500344000	15	Sorghum, grain	30.000000	1.000	1.000		
1500345000	15	Sorghum, syrup	30.000000	1.000	1.000		
1500381000	15	Triticale, flour Full comment: P 8E2122	30.000000	1.000	1.000		
1500381001	15	Triticale, flour-babyfood	30.000000	1.000	1.000		
1500401000	15	Wheat, grain Full comment: P 8E2122	30.000000	1.000	1.000	P 8E21	
1500401001	15	Wheat, grain-babyfood Full comment: P 8E2122	30.000000	1.000	1.000	P 8E21	
1500402000	15	Wheat, flour	30.000000	1.000	1.000		
1500402001	15	Wheat, flour-babyfood	30.000000	1.000	1.000		
1500403000	15	Wheat, germ Full comment: P 8E2122	30.000000	1.000	1.000	P 8E21	
1500404000	15	Wheat, bran Full comment: P 8E2122	30.000000	1.000	1.000	P 8E21	
1500405000	15	Wild rice Full comment: P 8E2122	0.100000	1.000	1.000	P 8E21	
1800002000	18	Alfalfa, seed	0.500000	1.000	1.000		
1901028000	19A	Basil, fresh leaves Full comment: P 9E6003	0.200000	1.000	1.000	P 9E60	
1901028001	19A	Basil, fresh leaves-babyfood	0.200000	1.000	1.000		
1901029000	19A	Basil, dried leaves Full comment: P 9E6003	0.200000	1.000	1.000	P 9E60	
1901029001	19A	Basil, dried leaves-babyfood Full comment: P 9E6003	0.200000	1.000	1.000	P 9E60	
1901102500	19A	Chive, dried leaves	0.200000	1.000	1.000		
1901118000	19A	Cilantro, leaves Full comment: P 9E6003	0.200000	1.000	1.000	P 9E60	
1901118001	19A	Cilantro, leaves-babyfood	0.200000	1.000	1.000		

Glyphosate	Dietary Exposure and Risk Assessment	D429229			
1901144000 19A Dillweed Full comment: P 9E6003	0.200000	1.000	1.000	P	9E60
1901184000 19A Herbs, other	0.200000	1.000	1.000		
1901184001 19A Herbs, other-babyfood	0.200000	1.000	1.000		
1901202000 19A Lemongrass	0.200000	1.000	1.000		
1901220000 19A Marjoram Full comment: P 9E6003	0.200000	1.000	1.000	P	9E60
1901220001 19A Marjoram-babyfood Full comment: P 9E6003	0.200000	1.000	1.000	P	9E60
1901249000 19A Parsley, dried leaves Full comment: P 8E2122	0.200000	1.000	1.000	P	8E21
1901249001 19A Parsley, dried leaves-babyfood Full comment: P 8E2122	0.200000	1.000	1.000	P	8E21
1901334000 19A Savory Full comment: P 9E6003	0.200000	1.000	1.000	P	9E60
1902105000 19B Cinnamon Full comment: P 9E6003	7.000000	1.000	1.000	P	9E60
1902105001 19B Cinnamon-babyfood Full comment: P 9E6003	7.000000	1.000	1.000	P	9E60
1902119000 19B Coriander, seed Full comment: P 9E6003	7.000000	1.000	1.000	P	9E60
1902119001 19B Coriander, seed-babyfood	7.000000	1.000	1.000		
1902143000 19B Dill, seed Full comment: P 9E6003	7.000000	1.000	1.000	P	9E60
1902274000 19B Pepper, black and white Full comment: P 9E6003	7.000000	1.000	1.000	P	9E60
1902274001 19B Pepper, black and white-babyfood Full comment: P 9E6003	7.000000	1.000	1.000	P	9E60
1902354000 19B Spices, other	7.000000	1.000	1.000		
1902354001 19B Spices, other-babyfood	7.000000	1.000	1.000		
2001163000 20A Flax seed, oil Full comment: 00ND0025 (S18)	40.000000	1.000	1.000	00ND00	
2001319000 20A Rapeseed, oil Full comment: P 2E4118	20.000000	1.000	1.000	P	2E41
2001319001 20A Rapeseed, oil-babyfood Full comment: P 2E4118	20.000000	1.000	1.000	P	2E41
2001336000 20A Sesame, seed Full comment: P 9E6003	40.000000	1.000	1.000	P	9E60
2001336001 20A Sesame, seed-babyfood	40.000000	1.000	1.000		
2001337000 20A Sesame, oil Full comment: P 9E6003	40.000000	1.000	1.000	P	9E60
2001337001 20A Sesame, oil-babyfood	40.000000	1.000	1.000		
2002330000 20B Safflower, oil Full comment: P 9E6003	40.000000	1.000	1.000	P	9E60
2002330001 20B Safflower, oil-babyfood Full comment: P 9E6003	40.000000	1.000	1.000	P	9E60
2002364000 20B Sunflower, seed Full comment: P 6F3408	40.000000	1.000	1.000	P	6F34
2002365000 20B Sunflower, oil Full comment: P 6F3408	40.000000	1.000	1.000	P	6F34
2002365001 20B Sunflower, oil-babyfood Full comment: P 6F3408	40.000000	1.000	1.000	P	6F34
2003114001 20C Coconut, oil-babyfood Full comment: P 2F2680	0.100000	1.000	1.000	P	2F26
2003128000 20C Cottonseed, oil	40.000000	1.000	1.000		
2003128001 20C Cottonseed, oil-babyfood	40.000000	1.000	1.000		
3100046000 31 Beef, meat byproducts	5.000000	1.000	1.000		
3100046001 31 Beef, meat byproducts-babyfood	5.000000	1.000	1.000		
3100048000 31 Beef, kidney Full comment: P 4F4312	5.000000	1.000	1.000	P	4F43
3100049000 31 Beef, liver Full comment: P OF2329	5.000000	1.000	1.000	P	OF23
3100049001 31 Beef, liver-babyfood Full comment: P OF2329	5.000000	1.000	1.000	P	OF23
3200170000 32 Goat, meat byproducts	5.000000	1.000	1.000		

Glyphosate		Dietary Exposure and Risk Assessment				D429229
3200172000	32	Goat, kidney	5.000000	1.000	1.000	
3200173000	32	Goat, liver	5.000000	1.000	1.000	
3400291000	34	Pork, skin	5.000000	1.000	1.000	
3400292000	34	Pork, meat byproducts	5.000000	1.000	1.000	
3400292001	34	Pork, meat byproducts-babyfood	5.000000	1.000	1.000	
3400294000	34	Pork, kidney	5.000000	1.000	1.000	
3400295000	34	Pork, liver	5.000000	1.000	1.000	P 0F23
		Full comment: P 0F2329				
3500340000	35	Sheep, meat byproducts	5.000000	1.000	1.000	
3500342000	35	Sheep, kidney	5.000000	1.000	1.000	
3500343000	35	Sheep, liver	5.000000	1.000	1.000	
4000093000	40	Chicken, meat	0.100000	1.000	1.000	P 9F50
		Full comment: P 9F5096				
4000093001	40	Chicken, meat-babyfood	0.100000	1.000	1.000	P 9F50
		Full comment: P 9F5096				
4000094000	40	Chicken, liver	1.000000	1.000	1.000	P 9F50
		Full comment: P 9F5096				
4000095000	40	Chicken, meat byproducts	1.000000	1.000	1.000	P 9F50
		Full comment: P 9F5096				
4000095001	40	Chicken, meat byproducts-babyfoo	1.000000	1.000	1.000	P 9F50
		Full comment: P 9F5096				
4000097000	40	Chicken, skin	1.000000	1.000	1.000	
4000097001	40	Chicken, skin-babyfood	1.000000	1.000	1.000	
5000382000	50	Turkey, meat	0.100000	1.000	1.000	P 0F23
		Full comment: P 0F2329				
5000382001	50	Turkey, meat-babyfood	0.100000	1.000	1.000	P 0F23
		Full comment: P 0F2329				
5000383000	50	Turkey, liver	1.000000	1.000	1.000	
5000383001	50	Turkey, liver-babyfood	1.000000	1.000	1.000	
5000384000	50	Turkey, meat byproducts	1.000000	1.000	1.000	P 0F23
		Full comment: P 0F2329				
5000384001	50	Turkey, meat byproducts-babyfood	1.000000	1.000	1.000	P 0F23
		Full comment: P 0F2329				
5000386000	50	Turkey, skin	1.000000	1.000	1.000	
5000386001	50	Turkey, skin-babyfood	1.000000	1.000	1.000	
6000301000	60	Poultry, other, meat	0.100000	1.000	1.000	P 9E60
		Full comment: P 9E6003				
6000302000	60	Poultry, other, liver	1.000000	1.000	1.000	
6000303000	60	Poultry, other, meat byproducts	1.000000	1.000	1.000	
6000305000	60	Poultry, other, skin	1.000000	1.000	1.000	
7000145000	70	Egg, whole	0.050000	1.000	1.000	P 9F5
		Full comment: P 9F5096				
7000145001	70	Egg, whole-babyfood	0.050000	1.000	1.000	P 9F5
		Full comment: P 9F5096				
7000146000	70	Egg, white	0.050000	1.000	1.000	P 9F5
		Full comment: P 9F5096				
7000146001	70	Egg, white (solids)-babyfood	0.050000	1.000	1.000	
7000147000	70	Egg, yolk	0.050000	1.000	1.000	P 9F5
		Full comment: P 9F5096				
7000147001	70	Egg, yolk-babyfood	0.050000	1.000	1.000	P 9F5
		Full comment: P 9F5096				
8000157000	80	Fish-freshwater finfish	0.250000	1.000	1.000	P 9F21
		Full comment: P 9F2163				
8000158000	80	Fish-freshwater finfish, farm ra	0.250000	1.000	1.000	P 9F21
		Full comment: P 9F2163				
8000159000	80	Fish-saltwater finfish, tuna	0.250000	1.000	1.000	P 9F21
		Full comment: P 9F2163				
8000160000	80	Fish-saltwater finfish, other	0.250000	1.000	1.000	P 9F21
		Full comment: P 9F2163				
8000161000	80	Fish-shellfish, crustacean	3.000000	1.000	1.000	P 3F29
		Full comment: P 3F2956				
8000162000	80	Fish-shellfish, mollusc	3.000000	1.000	1.000	P 3F29
		Full comment: P 3F2956				
8601000000	86A	Water, direct, all sources	0.075000	1.000	1.000	
8602000000	86B	Water, indirect, all sources	0.075000	1.000	1.000	

Glyphosate	Dietary Exposure and Risk Assessment	D429229		
9500000500 O Acai berry	0.200000	1.000	1.000	
9500001000 O Acerola	0.200000	1.000	1.000	
9500001500 O Agave	0.500000	1.000	1.000	
9500016000 O Artichoke, globe Full comment: P 9E6003	0.200000	1.000	1.000	P 9E60
9500019000 O Asparagus Full comment: P 8E3648	0.500000	1.000	1.000	P 8E36
9500019500 O Atemoya	0.200000	1.000	1.000	
9500020000 O Avocado Full comment: P 8F2021	0.200000	1.000	1.000	P 8F20
9500022000 O Bamboo, shoots Full comment: P 9E6003	0.500000	1.000	1.000	P 9E60
9500023000 O Banana Full comment: P 9F2223	0.200000	1.000	1.000	P 9F22
9500023001 O Banana-babyfood Full comment: P 9F2223	0.200000	1.000	1.000	P 9F22
9500024000 O Banana, dried Full comment: P 9F2223	0.200000	3.900	1.000	P 9F22
9500024001 O Banana, dried-babyfood Full comment: P 9F2223	0.200000	3.900	1.000	P 9F22
9500060000 O Breadfruit Full comment: P 9E3754	0.200000	1.000	1.000	P 9E37
9500073000 O Cactus	0.500000	1.000	1.000	
9500074000 O Canistel	0.200000	1.000	1.000	
9500077000 O Carob	0.200000	1.000	1.000	
9500089000 O Cherimoya	0.200000	1.000	1.000	
9500109000 O Cocoa bean, chocolate Full comment: P 0E3857	0.200000	1.000	1.000	P 0E38
9500110000 O Cocoa bean, powder Full comment: P 0E3857	0.200000	1.000	1.000	P 0E38
9500111000 O Coconut, meat Full comment: P 2F2680	0.100000	1.000	1.000	P 2F26
9500111001 O Coconut, meat-babyfood Full comment: P 2F2680	0.100000	1.000	1.000	P 2F26
9500112000 O Coconut, dried Full comment: P 2F2680	0.100000	2.100	1.000	P 2F26
9500113000 O Coconut, milk Full comment: P 2F2680	0.100000	1.000	1.000	P 2F26
9500114000 O Coconut, oil Full comment: P 2F2680	0.100000	1.000	1.000	P 2F26
9500115000 O Coffee, roasted bean Full comment: P 6E1809	1.000000	1.000	1.000	P 6E18
9500116000 O Coffee, instant Full comment: P 6E1809	1.000000	1.000	1.000	P 6E18
9500141000 O Date Full comment: P 9E3754	0.200000	1.000	1.000	P 9E37
9500151000 O Feijoa	0.200000	1.000	1.000	
9500153000 O Fig Full comment: P 3E2929	0.200000	1.000	1.000	P 3E29
9500154000 O Fig, dried Full comment: P 3E2929	0.200000	1.000	1.000	P 3E29
9500177000 O Grape, leaves	0.200000	1.000	1.000	
9500178000 O Grape, raisin Full comment: P 5F1560	0.200000	4.300	1.000	P 5F15
9500183000 O Guava Full comment: P 1E2443	0.200000	1.000	1.000	P 1E24
9500183001 O Guava-babyfood	0.200000	1.000	1.000	
9500188000 O Hop	7.000000	1.000	1.000	
9500193000 O Jackfruit	0.200000	1.000	1.000	
9500209000 O Longan	0.200000	1.000	1.000	
9500211000 O Lychee	0.200000	1.000	1.000	
9500212000 O Lychee, dried	0.200000	1.850	1.000	
9500214000 O Mamey apple	0.200000	1.000	1.000	
9500215000 O Mango Full comment: P 1E2490	0.200000	1.000	1.000	P 1E24

Glyphosate	Dietary Exposure and Risk Assessment	D429229			
9500215001 O Mango-babyfood Full comment: P 1E2490	0.200000	1.000	1.000	P 1E24	
9500216000 O Mango, dried Full comment: P 1E2490	0.200000	1.000	1.000	P 1E24	
9500217000 O Mango, juice Full comment: P 1E2490	0.200000	1.000	1.000	P 1E24	
9500217001 O Mango, juice-babyfood Full comment: P 1E2490	0.200000	1.000	1.000	P 1E24	
9500235000 O Olive Full comment: P 3E2929	0.200000	1.000	1.000	P 3E29	
9500236000 O Olive, oil Full comment: P 3E2929	0.200000	1.000	1.000	P 3E29	
9500243000 O Palm heart, leaves Full comment: P 9E6003	0.500000	1.000	1.000	P 9E60	
9500244000 O Palm, oil Full comment: P 6H5115	0.100000	1.000	1.000	P 6H51	
9500244001 O Palm, oil-babyfood Full comment: P 6H5115	0.100000	1.000	1.000	P 6H51	
9500245000 O Papaya Full comment: P 1E2443	0.200000	1.000	1.000	P 1E24	
9500245001 O Papaya-babyfood	0.200000	1.000	1.000		
9500246000 O Papaya, dried Full comment: P 1E2443	0.200000	1.800	1.000	P 1E24	
9500247000 O Papaya, juice Full comment: P 1E2443	0.200000	1.500	1.000	P 1E24	
9500252000 O Passionfruit Full comment: P 9E3715	0.200000	1.000	1.000	P 9E37	
9500252001 O Passionfruit-babyfood	0.200000	1.000	1.000		
9500253000 O Passionfruit, juice Full comment: P 9E3715	0.200000	1.000	1.000	P 9E37	
9500253001 O Passionfruit, juice-babyfood	0.200000	1.000	1.000		
9500254000 O Pawpaw	0.200000	1.000	1.000		
9500263000 O Peanut Full comment: P 0F2329	0.100000	1.000	1.000	P 0F23	
9500264000 O Peanut, butter	0.100000	1.890	1.000		
9500265000 O Peanut, oil Full comment: P 0F2329	0.100000	1.000	1.000	P 0F23	
9500275000 O Peppermint	200.000000	1.000	1.000		
9500276000 O Peppermint, oil	200.000000	1.000	1.000		
9500277000 O Persimmon Full comment: P 9E3754	0.200000	1.000	1.000	P 9E37	
9500279000 O Pineapple Full comment: P 2F2634	0.200000	1.000	1.000	P 2F26	
9500279001 O Pineapple-babyfood Full comment: P 2F2634	0.200000	1.000	1.000	P 2F26	
9500280000 O Pineapple, dried Full comment: P 2F2634	0.200000	5.000	1.000	P 2F26	
9500281000 O Pineapple, juice Full comment: P 2F2634	0.200000	1.700	1.000	P 2F26	
9500281001 O Pineapple, juice-babyfood Full comment: P 2F2634	0.200000	1.700	1.000	P 2F26	
9500283000 O Plantain Full comment: P 9F2223	0.200000	1.000	1.000	P 9F22	
9500284000 O Plantain, dried Full comment: P 9F2223	0.200000	3.900	1.000	P 9F22	
9500289000 O Pomegranate Full comment: P 1E3978	0.200000	1.000	1.000	P 1E39	
9500311000 O Quinoa, grain	5.000000	1.000	1.000		
9500333000 O Sapote, Mamey	0.200000	1.000	1.000		
9500346000 O Soursop	0.200000	1.000	1.000		
9500351000 O Spanish lime	0.200000	1.000	1.000		
9500352000 O Spearmint	200.000000	1.000	1.000		
9500353000 O Spearmint, oil	200.000000	1.000	1.000		
9500358000 O Starfruit Full comment: P 6E3424	0.200000	1.000	1.000	P 6E34	

Glyphosate	Dietary Exposure and Risk Assessment	D429229
------------	--------------------------------------	---------

9500361000 O	Sugar apple	0.200000	1.000	1.000	
9500362000 O	Sugarcane, sugar	2.000000	1.000	1.000	
9500362001 O	Sugarcane, sugar-babyfood	2.000000	1.000	1.000	
9500363000 O	Sugarcane, molasses	30.000000	1.000	1.000	P 9H51
	Full comment: P 9H5196				
9500363001 O	Sugarcane, molasses-babyfood	30.000000	1.000	1.000	P 9H51
	Full comment: P 9H5196				
9500368000 O	Tamarind	0.200000	1.000	1.000	
9500372000 O	Tea, dried	1.000000	1.000	1.000	P 1H53
	Full comment: P 1H5310 & 8H5568				
9500373000 O	Tea, instant	7.000000	1.000	1.000	P 1H53
	Full comment: P 1H5310 & 8H5568				
9500373500 O	Teff, flour	5.000000	1.000	1.000	
9500398000 O	Watercress	0.200000	1.000	1.000	P 9E60
	Full comment: P 9E6003				

## Attachment 2: DEEM-FCID™ Chronic Exposure Estimates.

US EPA

Ver. 3.16, 03-08-d

DEEM-FCID Chronic analysis for GLYPHOSATE

NHANES 2003-2008 2-day

Residue file name: C:\Users\tbloem\Documents\work\glyphosate\registration  
review\417300C.R08

Adjustment factor #2 NOT used.

Analysis Date 06-20-2017/13:09:59 Residue file dated: 06-20-2017/13:09:31

Reference dose (Rfd, Chronic) = 1 mg/kg bw/day

COMMENT 1: THIS R98 FILE WAS GENERATED USING THE CONVERT TO R98 UTILITY VERSION 1.1.2.

=====  
Total exposure by population subgroup  
-----

Population Subgroup	Total Exposure	
	mg/kg body wt/day	Percent of Rfd
Total US Population	0.089771	9.0%
Hispanic	0.093159	9.3%
Non-Hisp-White	0.089643	9.0%
Non-Hisp-Black	0.085154	8.5%
Non-Hisp-Other	0.093631	9.4%
Nursing Infants	0.070718	7.1%
Non-Nursing Infants	0.168538	16.9%
Female 13+ PREG	0.075060	7.5%
Children 1-6	0.216642	21.7%
Children 7-12	0.137951	13.8%
Male 13-19	0.096115	9.6%
Female 13-19/NP	0.080940	8.1%
Male 20+	0.075885	7.6%
Female 20+/NP	0.062555	6.3%
Seniors 55+	0.059593	6.0%
All Infants	0.138338	13.8%
Female 13-50	0.068978	6.9%
Children 1-2	0.228379	22.8%
Children 3-5	0.212036	21.2%
Children 6-12	0.147749	14.8%
Youth 13-19	0.088362	8.8%
Adults 20-49	0.074650	7.5%
Adults 50-99	0.061258	6.1%
Female 13-49	0.069318	6.9%

---